RcmdrPlugin.survival: An R Commander Plug-in Package for Survival Analysis

John Fox

McMaster University
Hamilton, Ontario, Canada

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Basic Capabilities

The **RcmdrPlugin.survival** package provides a graphical user interface (GUI) for some of the most widely facilities of the **survival** package:
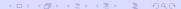
- Estimating survival functions (`survfit`).
- Testing differences in survival functions (`survdiff`).
- Fitting Cox-regression models (`coxph`).
- Fitting parametric survival-regression models (`survreg`).

Survival Data

The **RcmdrPlugin.survival** package provides the ability to define and manipulate survival data:

- Survival-data definition (time and event variables, strata, clusters) saved as data-set attributes.
- Conversion from wide to long format for time-dependent covariates.
- Conversion of variables to date or Date objects.

Diagnostics

Model diagnostics from the **survival** package:

- Test and graphs for proportional-hazard assumption of Cox model (cox.zph) .
- Graphs of dfbeta and dfbetas for both Cox and parametric survival-regression models (residuals methods for these models).
- Plots of null martingale residuals for Cox models (residuals method).
- Partial-residual plots for Cox models (residuals and fitted methods).
- Ability to add fitted values and residuals to the data set.

Additional Summaries

- Other displays
  - Plots of fitted survival functions based on Cox model.
  - Quantiles of survival functions (`quantile` method for `survfit` objects, from **RcmdrPlugin.survival** package).

- Tests
  - Analysis of deviance tables for Cox and parametric survival-regression models (`anova`, `Anova` from **car** package).
  - Wald tests of linear hypotheses (`linearHypothesis` from **car** package).